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Amendments to the Claims

Please add Claims 40-44. Please amend Claims 7, 11, 21 and 22. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Previously presented) A nanocomposite surgical material comprising:
 - (a) a polymer matrix formed by polymerizing a liquid component and polymeric powder particles; and
 - (b) nanoencapsulated solid filler dispersed within the polymer matrix to produce a composite surgical material having an average matrix ligament thickness of less than 1000 nanometers,wherein at least a portion of the filler has radio-opaque properties or includes a bioactive or pharmaceutical compound and is present in regions occupied by the polymerized liquid component.
2. (Original) The nanocomposite surgical material of Claim 1 wherein the average matrix ligament thickness is less than 750 nanometers.
3. (Original) The nanocomposite surgical material of Claim 1 wherein the average matrix ligament thickness is less than 500 nanometers.
4. (Original) The nanocomposite surgical material of Claim 1 wherein the average matrix ligament thickness is less than 300 nanometers.
5. (Original) The nanocomposite surgical material of Claim 1 wherein the polymer matrix is non-biodegradable.
6. (Original) The nanocomposite surgical material of Claim 5 wherein the polymer matrix includes an acrylic polymer.
7. (Currently amended) The nanocomposite surgical material of Claim 1 wherein the ~~polymer matrix is formed by polymerizing a pre-polymerized polymer component and a monomer~~ polymer matrix of step (a) is formed by polymerizing the liquid component,

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wherein the liquid component comprises a monomer, and the polymeric powder particles, wherein the polymeric powder particles comprise a pre-polymerized polymer component.

8. (Original) The nanocomposite surgical material of Claim 7 wherein the pre-polymerized polymer component is poly(methyl methacrylate), poly(methyl methacrylate-co-styrene) or any combination thereof, and the monomer is methyl methacrylate.
9. (Original) The nanocomposite surgical material of Claim 1 wherein the nanocomposite surgical material is in the form of a pre-polymerized surgical implant.
10. (Original) The nanocomposite surgical material of Claim 1 wherein the polymer matrix is biodegradable.
11. (Currently amended) The ~~nanocomposite~~ nanocomposite surgical material of Claim 10 wherein the polymer matrix includes polylactic acid.
12. (Original) The nanocomposite surgical material of Claim 10 wherein the polymer matrix includes polyglycolic acid.
13. (Original) The nanocomposite surgical cement of Claim 10 wherein the nanocomposite surgical material is in the form of a prepolymerized surgical implant.
14. (Original) The nanocomposite surgical material of Claim 1 wherein the nanocomposite surgical material is a surgical cement.
15. (Cancelled)
16. (Original) The nanocomposite surgical material of Claim 1 wherein the nanoencapsulated solid filler has an average mass diameter which is less than 1000 nanometers
17. (Original) The nanocomposite surgical material of Claim 1 wherein the nanoencapsulated solid filler has an average mass diameter ranging from about 750 nanometers to about 1 nanometer.
18. (Previously presented) A nanocomposite surgical material comprising:

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- (a) a polymer matrix formed by polymerizing a liquid component and polymeric powder particles; and
 - (b) nanoencapsulated solid filler dispersed within the polymer matrix to produce a composite surgical material;
wherein the nanoencapsulated solid filler has an average mass diameter of less than 1000 nanometers and wherein at least a portion of the filler has radio-opaque properties or includes a bioactive or pharmaceutical compound and is present in regions occupied by the polymerized liquid component.
19. (Original) The nanocomposite surgical material of Claim 18 wherein the nanoencapsulated solid filler has an average mass diameter ranging from about 750 nanometers and about 1 nanometer.
20. (Cancelled)
21. (Currently amended) A polymeric powder for preparing a nanocomposite surgical material comprising: ~~a polymer matrix and a nanoencapsulated solid filler having an average mass diameter which is less than 1000 nanometers~~
(a) a polymer component; and
(b) a nanoencapsulated solid filler having an average mass diameter which is less than 1000 nanometers.
wherein the polymer component and the solid filler are admixed to produce a uniformly dispersed powder.
22. (Currently amended) The polymeric powder of Claim 21 wherein the ~~polymer matrix~~ polymer component comprises poly(methyl methacrylate), poly(methyl methacrylate-co-styrene) or any combination ~~[[i]]~~ thereof.
- 23-37. (Cancelled)
38. (Previously presented) The nanocomposite surgical material of Claim 1 wherein the solid filler is nanoencapsulated prior to addition of the polymeric powder.

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39. (Previously presented) The nanocomposite surgical material of Claim 18 wherein the nanoencapsulated solid filler is nanoencapsulated prior to addition of the polymeric powder.
40. (New) The polymeric powder of claim 21 further comprising a polymerization initiator.
41. (New) The polymeric powder of claim 21 wherein at least a portion of the nanoencapsulated solid filler has radio-opaque properties.
42. (New) Precursors for preparing a nanocomposite surgical material having an average matrix ligament thickness of less than 1000 nanometers, comprising:
- (a) a polymeric powder;
 - (b) a liquid component comprising a polymerizable polymer; and
 - (c) optionally, an initiator for the polymerization reaction,
- wherein either, or both, the polymeric powder or the liquid component further comprises a nanoencapsulated solid filler having an average mass diameter which is less than 1000 nanometers.
43. (New) The precursors of claim 42 wherein the polymeric powder comprises:
- (a) a polymer component; and
 - (b) a nanoencapsulated solid filler having an average mass diameter which is less than 1000 nanometers,
- wherein the polymer component and the solid filler are admixed to produce a uniformly dispersed powder.
44. (New) The precursors of claim 42 wherein the liquid component further comprises a nanoencapsulated solid filler having an average mass diameter which is less than 1000 nanometers.